

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
15 September 2005 (15.09.2005)

PCT

(10) International Publication Number
WO 2005/086528 A1

(51) International Patent Classification⁷: **H04R 7/00**

(21) International Application Number:
PCT/KR2005/000599

(22) International Filing Date: 4 March 2005 (04.03.2005)

(25) Filing Language: Korean

(26) Publication Language: English

(30) Priority Data:
10-2004-0014782 4 March 2004 (04.03.2004) KR
10-2004-0071387 7 September 2004 (07.09.2004) KR
10-2004-0092161 11 November 2004 (11.11.2004) KR

(71) Applicant (for all designated States except US): **MIRAE PLASMA CO., LTD.** [KR/KR]; 249-11, Yeonnam-dong, Mapo-gu, Seoul 121-865 (KR).

(72) Inventor; and

(75) Inventor/Applicant (for US only): **KIM, Chul Ung** [KR/KR]; 168-11, Cheongam-dong, Yongsan-gu, Seoul 140-050 (KR).

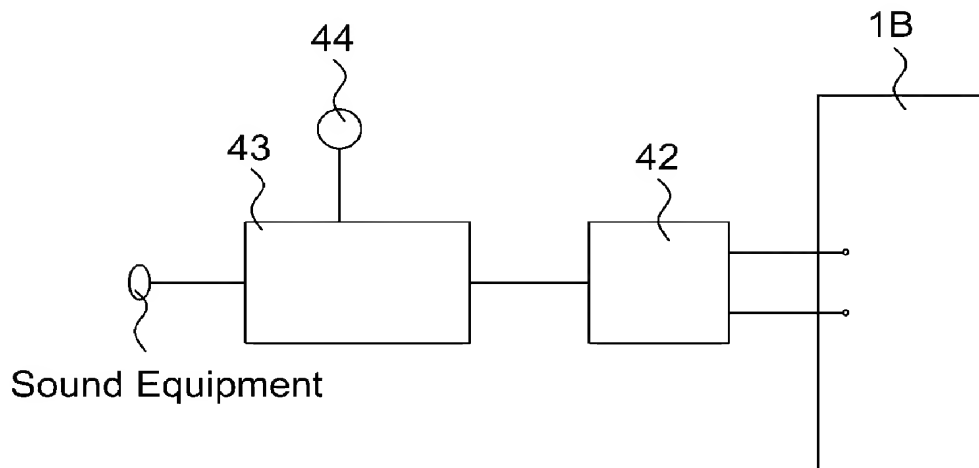
(74) Agent: **SEO, Cheon-Seok**; Law and Patent Offices of SEO International, 8th Fl. KAIS System Bldg 1657-5 Seocho, 1-dong, Seocho-gu, Seoul 137-881 (KR).

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

[Continued on next page]

(54) Title: METHOD OF MANUFACTURING FILM-SPEAKER USING PIEZOELECTRIC FILM AND SOUND EQUIPMENT WITH THE SAME



(57) Abstract: A method of manufacturing a film-speaker using a piezoelectric material and a sound equipment with the film-speaker are disclosed. A sound equipment with a film-speaker comprises a film-speaker unit, a matching transformer connected with the film-speaker unit, an amplifier coupled with the matching transformer, and a power supply unit providing the amplifier with power. The film-speaker unit includes a piezoelectric film and electrodes formed on both surfaces of the piezoelectric film. The surface of the piezoelectric film are reformed by irradiating ions with a predetermined energy under a vacuum state to increase an adhesive force. The electrodes are formed by depositing conductive material on both surfaces of the piezoelectric film. The sound equipment with a film-speaker further includes a condenser positioned between the film-speaker unit and the matching transformer, a dynamic speaker installed between the amplifier and the matching transformer, and a coil positioned between the amplifier and the dynamic speaker.



WO 2005/086528 A1



Published:

— with international search report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.